

Assistive Camera Control

ECE-403

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Introduction

Our design project is an assistive camera device. This device is designed to help a person to easily control the zoom on a telephoto lens. The device will be mounted on the camera, and will be controlled by a computer through a switch interface/scanning system. Also upon requested we will be increasing the speed for the pan/tilt system on the camera to make for a faster camera system for the client.

Requirements

- Zoom drive system
 - Able to turn lens clockwise and counterclockwise
 - Able to fully zoom in and out with a quarter turn of the lens
 - Variable speed
 - Controlled through the client's MacBook Pro
 - Must be compact
 - Must fit 70.5 x 74mm lens
- Pan/Tilt drive system
 - Improve speed of existing system
 - Controlled through the client's Macbook Pro
- Software
 - Add ability to control zoom
 - Add ability to support new faster speed on pan and tilt
 - Add variable speed capabilities to current software
 - Improve existing software to streamline functionality
- Power
 - Devices will be powered from the client's on board power supply
 - Devices will have fault and overload protection

Summary

The overall goal of this project is to improve the control capabilities of the client's camera due to their limited mobility. By adding a device on the camera to control the zoom of the telephoto lens, the client will be able to control all aspects of the camera. In addition to the zoom system, we will be improving the existing pan/tilt system by adding additional speed capabilities. We also are going to help improve the software so that it is more streamlined for the client.